

## Patent Claims

1. A pin cage for a double-row self-aligning roller bearing, having the following features:

- the self-aligning roller bearing (1) has an inner ring (2) and an outer ring (3) and a plurality of rollers (10) which run between them in two rows (4, 5) next to one another on their raceways (6, 7, 8, 9),
- the pin cage (12) is arranged between the roller rows (4, 5), which pin cage (12) is configured on its axial sides with pins (11) which are fastened offset to one another at uniform spacings and in a stepped manner,
- the rollers (10) of both roller rows (4, 5) have one axial through hole (13) each, via which they are mounted rotatably on one pin (11) of the pin cage (12) each,

characterized in that

- the pin cage (12) is configured as a preassembled component without a side disk, which comprises a single-piece, closed annular disk (14) and pins (11) which protrude axially freely away from the latter and the length of which is smaller than the length of the through holes (13) in the rollers (10),
- the lubrication of the rollers (10) taking place by centrifugal force from their free end side (15) through the outer opening (16) of their through hole (13), and the free hollow space (17) of these through holes (13) being configured as an additional lubricant reservoir.

2. The pin cage as claimed in claim 1, characterized in that the annular disk (11) of the pin cage (12) preferably has a rhomboidal profile cross section, in which, based on a perpendicular axis of symmetry, the angles which lie opposite one another between the two upper side faces (18, 19) and the two lower side faces (20, 21) are

cut off at right angles with respect to the axis of symmetry.

3. The pin cage as claimed in claim 2, characterized in that the lower side faces (20, 21) of the annular disk (11) of the pin cage (12) preferably have perpendicularly inserted holes (22) for fastening the pins (11), and are configured as inner axial guide faces of the rollers (10) of the self-aligning roller bearing (1).

4. The pin cage as claimed in claim 2, characterized in that the inner openings (23) of the through holes (13) in the rollers (10) of the self-aligning roller bearing (1) are configured so as to be widened in each case by a radius and, together with the upper side faces (18, 19) of the annular disk (14) of the pin cage (12) form a defined discharge channel (24) for lubricant which emerges from the through holes (13) of the rollers (10).

5. The pin cage as claimed in claim 3, characterized in that the pins (11) of the pin cage (12) are preferably fastened by welding or screwing one of their ends (25) in the holes (22) on the lower side faces (20, 21) of the annular disk (14), and the free length of the pins (11) corresponds to approximately 50% to 70% of the length of the through holes (13) in the rollers (10) of the self-aligning roller bearing (1).

6. The pin cage as claimed in claim 5, characterized in that the pins (11) of the pin cage (12) have, on their entire free length, optionally either a cylindrical profile cross section or, on both sides of a transverse axis which corresponds to the longitudinal center of the rollers (10), a conical profile cross section, the cone angles ( $\alpha$ ,  $\beta$ ) corresponding on both sides preferably to the offset angle of the rollers (10) of the self-aligning roller bearing (1) of approximately  $1^\circ$ .